```java
package edu.stevens.cs548.clinic.domain;

import java.io.Serializable;
import java.util.ArrayList;
import java.util.List;

import javax.persistence.*;
import static javax.persistence.CascadeType.REMOVE;

/**
 * Entity implementation class for Entity: Patient
 *
 */
@NamedQueries({
    @NamedQuery(
        name="SearchPatientByPatientID",
        query="select p from Patient p where p.patientId = :pid"),
    @NamedQuery(
        name="CountPatientByPatientID",
        query="select count(p) from Patient p where p.patientId = :pid"),
    @NamedQuery(
        name = "RemoveAllPatients",
        query = "delete from Patient p")
})


@Entity
@Table(name="Patient")
public class Patient implements Serializable {

    private static final long serialVersionUID = 1L;

    private long id;

    private long patientId;

    private String name;

    @Id @GeneratedValue
    public long getId() {
        return id;
    }

    public void setId(long id) {
        this.id = id;
    }

    public long getPatientId() {
        return patientId;
    }

    public void setPatientId(long patientId) {
        this.patientId = patientId;
    }
```

```java
        public String getName() {
                return name;
        }

        public void setName(String name) {
                this.name = name;
        }


        private List<Treatment> treatments;

        @OneToMany(mappedBy = "patient", cascade = REMOVE)
        @OrderBy
        protected List<Treatment> getTreatments() {
                return treatments;
        }

        protected void setTreatments(List<Treatment> treatments) {
                this.treatments = treatments;
        }


        public Patient() {
                super();
                treatments = new ArrayList<Treatment>();
        }

}
```

package edu.stevens.cs548.clinic.domain;

import java.io.Serializable;

import javax.persistence.*;

import static javax.persistence.InheritanceType.JOINED;

@Entity

@Inheritance(strategy = JOINED)

@Table(name = "Treatment")

public abstract class Treatment implements Serializable {

        private static final long serialVersionUID = 1L;

```java
@Id
@GeneratedValue
private long id;

private String diagnosis;

public long getId() {
        return id;
}

public void setId(long id) {
        this.id = id;
}
private String treatmentType;

public String getTreatmentType() {
        return treatmentType;
}

public void setTreatmentType(String treatmentType) {
        this.treatmentType = treatmentType;
}

public String getDiagnosis() {
        return diagnosis;
}

public void setDiagnosis(String diagnosis) {
        this.diagnosis = diagnosis;
```

```java
        }


        @ManyToOne
        @JoinColumn(name = "patient_fk", referencedColumnName = "id")
        private Patient patient;


        @ManyToOne
        @JoinColumn(name = "provider_fk", referencedColumnName = "id")
        private Provider provider;


        public Patient getPatient() {
                return patient;
        }


        public void setPatient(Patient patient) {
                this.patient = patient;
                // More logic in the domain model.
        }


        public Treatment() {
                super();
        }


}
package edu.stevens.cs548.clinic.domain;

import java.io.Serializable;
import java.util.ArrayList;
import java.util.List;

import javax.persistence.Entity;
import javax.persistence.Enumerated;
import javax.persistence.GeneratedValue;
import javax.persistence.Id;
```

```java
import javax.persistence.NamedQueries;
import javax.persistence.NamedQuery;
import javax.persistence.OneToMany;
import javax.persistence.Table;
import static javax.persistence.CascadeType.REMOVE;

/**
 * Entity implementation class for Entity: Patient
 *
 */
@NamedQueries({
        @NamedQuery(
                name="SearchProviderByNPI",
                query="select p from Provider p where p.npi = :npi"),
        @NamedQuery(
                name="CountProviderByNPI",
                query="select count(p) from Provider p where p.npi = :npi"),
        @NamedQuery(
                name = "RemoveAllPatients",
                query = "delete from Patient p")
})

@Entity
@Table(name = "Provider")
public class Provider implements Serializable {

        private static final long serialVersionUID = 1L;

        public static enum ProviderType {
                INTERNIST,
                SURGEON,
                RADIOLOGIST
        };

        @Id @GeneratedValue
        private long id;

        private long npi;

        @Enumerated
        private ProviderType providerType;

        private String name;

        public long getId() {
                return id;
        }

        public void setId(long id) {
                this.id = id;
        }

        public long getNpi() {
                return npi;
        }
```

```java
        public void setNpi(long npi) {
                this.npi = npi;
        }

        public ProviderType getProviderType() {
                return providerType;
        }

        public void setProviderType(ProviderType providerType) {
                this.providerType = providerType;
        }

        public String getName() {
                return name;
        }

        public void setName(String name) {
                this.name = name;
        }

        @OneToMany(cascade = REMOVE, mappedBy = "provider")
        private List<Treatment> treatments;

        protected List<Treatment> getTreatments() {
                return treatments;
        }

        protected void setTreatments(List<Treatment> treatments) {
                this.treatments = treatments;
        }


        public Provider() {
                super();
                treatments = new ArrayList<Treatment>();
        }


}
```